

FACT SHEET: Bunsen Burners

Safe Use and Handling



A Bunsen burner is a type of gas burner that produces a smokeless, hot, non-luminous flame that can be used for various scientific experiments. The flame is created by the gas and oxygen being mixed in a controlled environment, which allows precise regulation of the size and heat of the burner. **OEHS discourages the use of Bunsen burners, as they present serious fire hazards.** They produce an open flame, burn at a high temperature, and as a result, there is potential for an accident to occur.

✓ NEED TO KNOW:

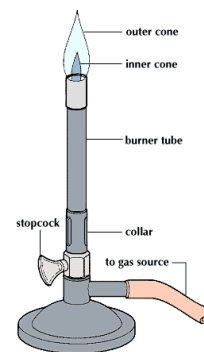
1. If you notice smoke/fire, immediately activate a pull station, evacuate the space, and close all doors.
2. If you are not actively working with a Bunsen burner but you smell gas in the space, immediately email OEHS at oehs@tulane.edu. Check gas valves to ensure they are turned off.
3. If you feel dizzy or nauseated while working with a gas-powered Bunsen burner, ensure to inform your supervisor and contact OEHS immediately. An Employee Incident Report must be filed through the incident report system.

ARE THERE SAFER ALTERNATIVES?

- There are several alternatives to using a traditional Bunsen burner, including sterile and disposable loops/spreaders, sterilizers and electric Bunsen burners.
- Electric options can provide the same result, and they are safer as they have an automatic shut off function. Electric Bunsen burners still produce an open flame and all the precautions above must be followed.
- Some devices use heat instead of open flames to sterilize equipment.
 - For work with yeast and/or bacteria colonies, there are cylindrical heaters that can reach 15,000 °F and can sterilize in 5-7 seconds.
 - For sterilizing surgical instruments, there are similar devices that use heated glass beads. These sterilizers can reach 4,510 °F and complete sterilization in 15 seconds.

HOW DO I GET A SAFER BUNSEN BURNER?

- Modern technology offers several safer alternatives to the use of the traditional, gas Bunsen burners. To ensure we use the most up to date technology, OEHS offers safer alternatives to swap out for your gas-powered Bunsen burners.
- For more information or to swap out your Bunsen burner for a safer alternative, contact OEHS at oehs@tulane.edu.



📱 MORE INFO:



! BUNSEN BURNER SAFETY TIPS:

- Avoid using Bunsen burners in the Biological Safety Cabinet. If a BSC must be used, place the burner to the rear of your work surface to minimize air turbulence.
- **ALWAYS** wear appropriate PPE when working with an open flame. This includes a flame-resistant lab coat.
- **NEVER** leave an open flame unattended.
- Only use open flame in areas clear of combustibles. Avoid using it under a shelf or cabinet, as these can catch on fire or burn either due to the flame itself or the heat of the flame.
- In case of a fire, rescue or remove personnel from the immediate scene, activate the nearest fire alarm pull station, notify all laboratory employees, confine fire by closing doors, and evacuate premises.

ADDITIONAL INFORMATION & RESOURCES:

- Stanford EHS: [Bunsen Burner Alternative Products](#)
- Iowa State: [Open Flame Alternatives](#)
- Weill Cornell: [Bunsen Burner Safety](#)